Saskatchewan
Economic and
Co-operative
Development

E-Government in Saskatchewan

Information Technology
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Introduction

> "In the future, the successful economy will be a knowledge economy. We will need more education before entering the workforce and we will need to continuously learn throughout our lives. Much of this will be – in fact, already is – driven by technology. Our ability to use, adapt and create new technology will be key."
>
> *- Partnership for Prosperity Consultation Document, September 2000*

The Government of Saskatchewan has recognized that significant opportunities exist to use information technology to develop an information-rich economy, enhance responsiveness and public access, and strengthen the government's ability to efficiently deliver information and services. To achieve these objectives, Saskatchewan must develop new ways of doing business that will allow it to focus its resources and respond to the needs of Saskatchewan citizens.

It is necessary to recognize that in an increasingly complex society, no part of government is self-contained; problems and their solutions increasingly involve more than one traditional sector of government activity. In order to meet the needs of citizens, horizontal co-ordination is now essential, requiring new mechanisms and new approaches to the way government conducts its business.

Electronic service delivery is the key to meeting the service needs of Saskatchewan's widely dispersed population, in a timely and cost-effective manner. Saskatchewan must be able to develop strategies that encourage a 'whole-of-government,' integrated approach to the use of information technology and telecommunications in the delivery of services to citizens.

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In order to ensure the development and successful implementation of this strategy, the government has included money in its 2001-02 budget to:

- start building CommunityNet, a high-speed network to connect schools, health care facilities, and other public sector sites to the Internet, and create a new platform for the delivery of services;
- provide major financial incentives for departments to move their services on-line;
- provide funding for education initiatives that will greatly expand the use of technology in learning; and
- assist the Department of Justice and the Saskatchewan Health Information Network (SHIN) enrich the services they provide.

The Digital Economy

> "The impact of digital technology goes beyond our education system. It has transformed how we interact with others, and our environment must enable citizens to be comfortable with new technology. It will enhance our power to communicate, not replace the value of personal interaction and service. It will open more channels for citizens to receive the services they need."
>
> *- Partnership for Prosperity Consultation Document, September 2000*

Technology, globalization, and the rise of the digital economy are changing the world we live in. The relationship between businesses and their customers; businesses and suppliers; and government and citizens are all undergoing fundamental change. This change is stimulated primarily by the growing speed of transactions, the ability to amass and utilize information and the growing demand for service geared to the needs of individuals.

The Internet is the primary medium of this new world. Its adoption rate is staggering when compared to the adoption of earlier technologies. Research has shown that it took 38 years for radio to be adopted by 50 million people in the United States. Television took 15 years, and cable took 10 years to reach this level.

It has taken less than five years for Internet to reach 50 million users and it is still growing rapidly.

A July 2000 survey[1] found that in Saskatchewan 80 per cent of the people have used the Internet. Sixty per cent rate their Internet skills as intermediate or better. Seventy per cent of Internet users have visited a government site. Saskatchewan people are using this new information tool – the Internet – and the Government needs to respond to their expectations.

What is E-Government?

Essentially, e-government is about addressing the new social and economic imperatives that arise from the new networked economy. To ensure that citizens are able to participate successfully in the new economy, the Government of Saskatchewan will build the infrastructure to provide citizens with secure, equitable, and affordable access to the information highway, while using Internet technologies to enhance service to citizens.

Why is E-Government Important?

E-government is a major building block to foster e-commerce and an information-based economy in Saskatchewan. This effort will reduce a growing "digital divide" between low and higher income groups, rural and urban citizens, and Aboriginal and non-Aboriginal people. Ultimately, government, businesses, and individuals will not be competitive in the new economy if they fail to adopt the new tools of the global economy.

Customer expectations of business have become citizen expectations of government. Surveys reveal the five most important aspects of service are:

1. timeliness;
2. knowledge and competence;
3. courtesy and comfort;
4. fair treatment; and
5. a positive outcome.

Decisions about the delivery of services must keep these priorities in mind.

The co-ordinated management of technology and information is key to the successful delivery of government programs. The use of technology and explosion of information requires government organizations to work together, implement decisions, and provide information and services to citizens in ways that benefit all.

Saskatchewan will stimulate development within the province and lead by example. Allowing businesses and the public to obtain services on-line will:

- improve relationships between citizens and government; and
- sharpen the performance of government agencies.

The Saskatchewan Vision for E-Government

E-government is the catalyst for e-commerce. Leading by example, the Government of Saskatchewan will increase awareness among both citizens and businesses and provide seamless and easy access to services anytime/anywhere. Saskatchewan's vision for e-government is:

> "Using technology to help government serve people and advance e-commerce."

This vision encompasses three related needs:

1. to provide a single service delivery window for citizens;
2. to use technology and information management techniques as tools to improve productivity/efficiency of government operations; and
3. to assist Saskatchewan citizens develop skills, which will help them adapt to the global network economy.

The challenge is in moving from the traditional model of government to a new networked model, where government services can be delivered more effectively and efficiently to Saskatchewan's dispersed population.

A Strategic Plan for E-Government

Three goals have been adopted as part of information technology and information management in the Government of Saskatchewan. These goals and objectives address the major components of government business:

1. who we serve (citizen focus);
2. how we do business (business practices); and
3. how we manage our resources (management).

Both the technology needs and the information needs of how the government conducts business can be found in the table of goals and objectives on the next page.

Goal	Objective
Citizens have secure, equitable, affordable access to government services and the Information Highway. **CITIZEN FOCUS**	Create a secure info- and infra-structure **TRUST**
	Increase access to government information and services for citizens and business **ACCESS**
	Enhance information exchange, electronic commerce and Internet transactions **SERVICE DELIVERY**
Information Technology and Information Management are integrated into government business. **BUSINESS PRACTICES**	Expand understanding and awareness of IT and IM within government **UNDERSTANDING**
	Adapt business processes to facilitate on-line delivery of information and services, where appropriate **ADAPTATION**
	Incorporate IT and IM into government business processes **INTEGRATION**
Information Technology and Information Management resources are cooperatively managed. **MANAGEMENT**	Establish corporate partnerships for IT and IM co-management **PARTNERSHIPS**
	Increase inter-departmental solutions within government **SOLUTIONS**
	Attract and retain quality IT personnel **PERSONNEL PLAN**
	Create a government wide framework for Information Management **INFORMATION**

Implementing the E-Government Strategy

Governments can be powerful catalysts for e-business. Governments can provide leadership in promoting the economy by making e-government a priority.

Since citizen service delivery and efficient government is of prime importance, targets that allow for transactions and forms to be completed electronically were established by the Provincial Cabinet in the fall of 2000. These two government-wide targets state that:

1. By 2002, all paper-based forms used by the Provincial Government will be available online; and
2. By 2004, 90 per cent of all transactions between the Provincial Government and Saskatchewan citizens* will be available online.

Through these targets, the Government of Saskatchewan is embarking on a broad initiative to enhance services to citizens. By making the appropriate government services available electronically, citizens can access them whenever and from wherever they want.

Extending the Information Highway Through Saskatchewan

The first step in the broad E-Government Strategy is building Saskatchewan's infrastructure – wires, hubs, and networking hardware – of the information highway throughout the province. To this end, the 2001-02 budget includes funding for CommunityNet, which will deliver high-speed Internet access to more than 1,000 schools, health facilities, and government offices in 366 communities.

CommunityNet

Saskatchewan has long been an advocate of universal, affordable access to all essential services. We believe that the Internet should be considered a public utility service in the same way as basic telecommunications services, water, and electricity.

Although 98 per cent of all Saskatchewan residents have access to a telephone, only those in our biggest centres have access to high-speed data communications.

Under current conditions, neither SaskTel nor any other carrier is able to develop a business case for the affordable expansion of this infrastructure to small- and medium-sized communities. CommunityNet combines Saskatchewan public sector entities into one anchor tenant and makes a province wide high-speed Internet network feasible.

Altogether, CommunityNet extends a provincial high-speed communications network and Internet access to over 366 communities. This includes:

- 839 educational facilities;
- 379 health facilities;
- 86 First Nations schools; and
- 249 government offices.

The overall cost to the public sector of CommunityNet will be $71 million over the next six years. Schools, health facilities, and other public service entities will not be required to pay any additional connection or usage costs.

Speeds will range from Gigabit (1,000 Mbps) connections between the research parks in the two universities, to 100 Mbps connections to some of the larger high schools, to 10 Mbps to mid-sized health facilities, to 400 Kbps in remote locations inaccessible by land lines. CommunityNet's slowest speed will be many times faster than the fastest speed available through dial-up services, operating at 56 Kbps.

CommunityNet will also offer security from hackers and viruses and the ability to provide content blocking on request. The cost of providing this second feature to schools, so administrators can shield their students from adult content web sites, is being investigated.

E-Government Initiatives

In addition to wiring Saskatchewan, the government is hard at work building on-line services that will make dealing with government faster and more convenient.

Government On-Line

Saskatchewan is not alone in setting targets for Government On-Line (GOL). The shift towards GOL is taking place world-wide. Some of the targets that have been established by different governments:

Canada	All key government services fully on-line by 2004.
Australia	All appropriate Federal Government services capable of being delivered electronically via the Internet by 2001.
Britain	100 per cent of government services carried out electronically by 2005.
U.S.A.	Provide public access to government services and documents by 2003. Provide public with an option to submit forms electronically.

During the past two years, the government has taken the first steps in promoting GOL in Saskatchewan. A Pathfinder Fund of $150,000 was offered each year to encourage departments to migrate existing government services to on-line services. Several services are now on-line because of the Pathfinder Fund including:

- An on-line government phonebook, linked to the Government's Central Web Site, that now includes e-mail addresses.
- The Aboriginal Court Worker's System serves as an on-line resource for a variety of government and non-government agencies.
- A new system at the Department of Education allows for ordering, order tracking, and payment of educational materials.

As a result of the success of the Pathfinder Fund, it has been replaced by a GOL Fund of $2 million.

The GOL Fund has been established to help departments achieve the government-wide targets set out in the E-Government Strategy. The GOL Fund will allow for the larger, more complex services to be transformed to on-line services. Government departments are now working on their applications to the GOL Fund. Here are some examples of the type of projects that will be funded:

- on-line funding application forms or budget submission forms;
- license or license renewal application forms; and
- Geographic Information Systems (GIS) applications, where information is presented on-line in a map form.

The 2001-02 Saskatchewan Government budget includes a number of specific technology enhanced `projects separate from the GOL Fund.

SHIN Operation and Development

Since its inception in 1997, SHIN has focused significant efforts on infrastructure development. Somewhat like building the foundation of a house before putting up the walls, SHIN invested in the design and development of a province-wide network infrastructure as the initial phase in the creation of a health information network.

This investment positioned SHIN to offer common technology solutions to the health system that reduce duplicate costs, ensure better communication and provide an enhanced level of support to health providers.

As part of this initial work in 1998, SHIN developed and tested a private network in the Southwest Health District. SHIN linked together physicians' offices, health centres, hospitals and labs. SHIN then began development of an e-mail and scheduling system for the health sector. Currently the system provides e-mail services to users in 26 health districts.

In 2000, SHIN surveyed a broad cross section of its health system stakeholders to identify their priorities for future SHIN development. The results of this research helped SHIN to identify which areas of development to focus on in the progression toward a provincial electronic health record.

In 2001/2002, SHIN project work will include:

- *Selection of an Integrated System for mid-sized districts* – SHIN will work with five mid-size health districts on the configuration, training and eventual implementation of a system that will integrate existing processes to support improved service.
- *Provider Registry Interfaces* – This project will involve linking registry management systems of professional associations with the new Western Health Information Collaborative (WHIC) provider registry application.
- *Personal Registry Integration* – This project will integrate Saskatchewan Health's Personal Registry System with district systems to reduce data entry time and improve accuracy.
- *Sunrise Clinical Manager (SCM) pilot in Saskatoon* – SHIN will assist the Saskatoon District Health in delivering timely clinical information to health providers in St. Paul's Hospital emergency room.

- *Lab database (repository) Implementation* – This project will make test results from the Regina Health District, the Saskatoon District Health and the Provincial Lab accessible remotely by local health districts and physician offices.
- *Help Desk Expansion* – SHIN will extend the coverage of its centralized help desk services to cover 20 health districts.
- *Community Net Implementation* – SHIN will work with districts and SaskTel to implement the next phase of CommunityNet, utilizing the highly secure Public Key Infrastructure (PKI) to ensure the high levels of security required for health information.
- *Physician Implementation of EHR* – SHIN will work with the Saskatchewan Medical Association to initiate a pilot of centrally hosted systems solutions that provide on-line clinical support to physicians.

Virtual Campus

The Saskatchewan Virtual Campus is a collaborative partnership involving the two universities, Saskatchewan Institute of Applied Science and Technology, regional colleges and Aboriginal institutions to expand use of technology enhanced learning. Technology enhanced learning is a key strategy in the education sector to increase access and improve distance education. Over the next five years, through the Virtual Campus, institutions will work together to provide:

- "one-stop" Internet access to 240 new on-line courses geared to the needs of Saskatchewan learners and employers; and
- support services for learners including: access to computers and the Internet, training in computer skills, electronic access to learning resources and technical support, and an array of post-secondary opportunities and services.

Through the Virtual Campus, digital technology and electronic services will become more accessible across all income groups and regions. These services will integrate leading edge technology in how courses are delivered, supporting a competitive knowledge-based economy in the province. Students will develop technology skills through learning methods that incorporate use of computers while providing flexible options for education and training "any time, any where."

Establishment of Educational Technology Consortium

The use of Educational Technology in Saskatchewan schools is one of Saskatchewan Education's priorities. In support of this priority, the department, in conjunction with the Saskatchewan Teachers' Federation (STF); Saskatchewan School Trustees Association (SSTA); Saskatchewan Association of School Business Officials (SASBO); the League of Educational Administrators and Directors (LEAD); and the Information Technology Office (ITO) has undertaken to establish an Educational Technology Consortium.

The purpose of the Consortium is to co-operatively manage the issues and activities concerning the use and support of Communication Information Technology (CIT) in Saskatchewan schools.

Since December 2000, meetings have been held with partner organizations to begin the development of the Educational Technology Consortium. These partner groups, in partnership with Saskatchewan Education, have agreed to act as the interim board of directors for the Consortium. Additionally, these groups will play an important role in advising the department regarding policy issues in the area of educational technology.

In December 2000, Saskatchewan Education committed to the provision of a secretariat to support the establishment of the Educational Technology Consortium. The cost of providing secretariat support for the developing Consortium is being allocated from existing resources within the department.

Digital Training for Aboriginal and Low-Income People

This public library-led program will focus on developing training specifically designed for Aboriginal and low-income people, who are among those at greatest risk of being caught in the digital divide. An effective outreach program for Aboriginal and low-income people will be developed in libraries across the province to provide training in the use of Internet technologies, information access and retrieval techniques, and general computer skills.

A model for this province-wide program has been developed by the Albert Library in Regina that has a staffed training laboratory available, without charge, to anyone who wishes to learn computer skills. Because of its location, its focus on services appropriate to an inner-city population and the use of a paid monitor has been successful. The lessons learned in this project and other related projects undertaken for disadvantaged groups by community associations, will guide the development of a provincial approach.

Corporate Registration

Saskatchewan Justice is developing an on-line registration, incorporation, and reporting system for its Corporation Branch. These enhancements will enable authorized users (law firms) to do business registrations, incorporations, and file annual returns on-line. The public will be able to submit initial registrations and annual returns on-line.

Information in the Corporate Registry System will be available via the Internet to anyone and users can pay their fees using Visa or MasterCard on-line.

Also, the One Stop Business Registration system, which combines access to the Corporation Branch, the Department of Finance and Worker's Compensation Board offered at selected locations throughout the province, will be enhanced and simplified.

These changes to the business registration and reporting process will improve functionality, turnaround time, and overall convenience for the business community and general public.

Conclusion

2001-02 will be a watershed year in Saskatchewan for the use of technology to provide access and deliver public services. Across government changes are being made, programs are being initiated, and services are being put on-line. These efforts, and those over the next few years, will provide benefits for Saskatchewan residents for decades.

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[1] "Citizens First 2000" Erin Research Inc.

[2] Citizens can be members of the public, businesses or third parties such as municipalities, school boards or other agencies external to the provincial government and Crowns.